UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,620	01/14/2004	Jeffrey Wannamaker	TVW/APP51US	4798

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/757,620	WANNAMAKER ET AL.
	Examiner	Art Unit	
	Qamrun Nahar	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1. Claims 1-17 have been examined.

Specification

2.   The use of the trademark JAVA has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

   Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

3.   The disclosure is objected to because of the following informalities: "A method processing" on line 28 of pg. 2 should be "A method **for** processing".

   Appropriate correction is required.

4.   The disclosure is objected to because of the following informalities: "to provide a application file" on lines 28-29 of pg. 2 should be "to provide **an** application file".

   Appropriate correction is required.

Claim Objections

5.   Claim 14 is objected to because of the following informalities: "and" is missing after the text "names;" on line 7 of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7.   Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8.   Claim 9 recites "an application" in line 3 of the claim, which renders the claim indefinite because it is unclear whether this limitation refers to the application on line 6 of claim 1 or this is another application. Therefore, this limitation is interpreted as "the application".

9.   Claim 9 recites "the names" in line 4 of the claim, which renders the claim indefinite because it is unclear whether this limitation refers to the method names on line 9 of claim 1 or to the target device names on lines 9-10 of claim 1. Therefore, this limitation is interpreted as "the target device names".

Claim Rejections - 35 USC § 101

10.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11.   Claims 15-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

12.   Claim 15 does not appear to produce a concrete, tangible and useful result. That is, the

step of "iteratively resolving ..." does not appear to produce a concrete, tangible and useful

result.

13.   Claim 16 reciting a "signal bearing medium", which suggests that such a medium may be

a carrier wave or transmission medium (intangible). Accordingly, claim 16 does not recite

tangible manufactures, and are non-statutory subject matter.

14.   Claim 17 reciting "A computer program product, comprising **a computer data signal**

embodied in a carrier wave", which is intangible. Accordingly, claim 17 does not recite

tangible manufactures, and are non-statutory subject matter.

Claim Rejections - 35 USC § 102

15.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16.   Claims 1-3, 7-9 and 13-17 are rejected under 35 U.S.C. 102(e) as being anticipated by

Schmidt (U.S. 6,535,894).

Per Claim 1:

The Schmidt patent discloses:

- removing from said JAR file at least a portion of information not necessary for executing said application ("... unnecessary files in the original archive file ... are deleted if so desired for a particular implementation ..." in column 15, lines 57-65)

- mapping at least one of application defined interface, class, field and method names to shorter names ("... file names ..." in column 12, lines 1-17)

- and mapping at least one of target environment defined interface, class, field and method names to corresponding target device names ("... a new entry ..." in column 12, lines 18-35).

Per Claim 2:

The Schmidt patent discloses:

- wherein said step of removing comprises: removing unnecessary byte codes from said JAR file (column 15, lines 57-65).

Per Claim 3:

The Schmidt patent discloses:

- **wherein said step of removing comprises: removing at least one of private unreferenced methods and fields from said JAR file** (column 15, lines 57-65).

Per Claim 7:

The Schmidt patent discloses:

- **further comprising: preferentially remapping application references to at least one of target environment defined interface, class, field and method names** (column 12, lines 18-35).

Per Claim 8:

The Schmidt patent discloses:

- **wherein: a target environment obfuscation is provided in which symbols used in the target environment are replaced with shorter names** (column 12, lines 3-11).

Per Claim 9:

The Schmidt patent discloses:

- **wherein: an application obfuscation is provided in which symbols used in an application are replaced with shorter names that do not overlap the names used for target environment obfuscation** (column 12, lines 11-17).

Per Claim 13:

The Schmidt patent discloses:

- wherein: said mapping steps are only used for mapping private symbols (column 12, lines 18-35).

Per Claim 14:

The Schmidt patent discloses:

- removing at least a portion of at least one of non-critical archive information, class information and unreferenced member information from a Jar file including an application ("... unnecessary files in the original archive file ... are deleted if so desired for a particular implementation ..." in column 15, lines 57-65)

- replacing at least one of interface, class, field and method names with corresponding shorter interface, class, field and method names ("... file names ..." in column 12, lines 1-17)

- replacing at least one of target environment defined interface, class, field and method names with corresponding target device interface, class, field and method names ("... a new entry ..." in column 12, lines 18-35).

Per Claim 15:

The Schmidt patent discloses:

- iteratively resolving application defined and target environment defined class, field and method names to interpret application byte codes presented within a ground Jar file (Fig. 11, item 744, "MORE ENTRIES IN TARGET?" and column 15, line 11 to column 16, line 29).

Per Claim 16:

This is a signal bearing medium version of the claimed method discussed above, claim 1, wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Schmidt.

Per Claim 17:

This is a computer program product version of the claimed method discussed above, claim 1, wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also anticipated by Schmidt.

Claim Rejections - 35 USC § 103

17.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18.   Claims 4-6 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Schmidt (U.S. 6,535,894) in view of Factor (U.S. 6,732,108).

Per Claim 4:

The rejection of claim 1 is incorporated, and further, Schmidt does not explicitly teach

identifying within said JAR file instances of duplicate strings; and remapping each duplicate

string to a corresponding initial string. Factor teaches identifying within said JAR file instances

of duplicate strings; and remapping each duplicate string to a corresponding initial string

(column 11, lines 27-38).

It would have been obvious to one having ordinary skill in the computer art at the time of

the invention was made to modify the method disclosed by Schmidt to include identifying within

said JAR file instances of duplicate strings; and remapping each duplicate string to a

corresponding initial string using the teaching of Factor. The modification would be obvious

because one of ordinary skill in the art would be motivated to eliminate duplicate constants by

moving them to a shared table (Factor, column 2, lines 21-26).

Per Claim 5:

The rejection of claim 1 is incorporated, and further, Schmidt does not explicitly teach

identifying within said JAR file instances of strings; providing a table to hold one instance of

each identified string; and remapping each identified string to a corresponding string table entry.

Factor teaches identifying within said JAR file instances of strings; providing a table to hold one

instance of each identified string; and remapping each identified string to a corresponding string

table entry (column 11, lines 27-38).

It would have been obvious to one having ordinary skill in the computer art at the time of

the invention was made to modify the method disclosed by Schmidt to include identifying within

said JAR file instances of strings; providing a table to hold one instance of each identified string;

and remapping each identified string to a corresponding string table entry using the teaching of

Factor. The modification would be obvious because one of ordinary skill in the art would be

motivated to eliminate duplicate constants by moving them to a shared table (Factor, column 2,

lines 21-26).

Per Claim 6:

The rejection of claim 1 is incorporated, and further, Schmidt does not explicitly teach

further comprising at least one of the following steps: (a) removing unreferenced constant pool

entries for at least one class; (b) mapping constant pool entry names to fixed length names; and

(c) sorting constant pool entries by type. Factor teaches further comprising at least one of the

following steps: (a) removing unreferenced constant pool entries for at least one class; (b)

mapping constant pool entry names to fixed length names; and (c) sorting constant pool entries

by type (column 11, lines 35-38).

It would have been obvious to one having ordinary skill in the computer art at the time of

the invention was made to modify the method disclosed by Schmidt to include further

comprising at least one of the following steps: (a) removing unreferenced constant pool entries

for at least one class; (b) mapping constant pool entry names to fixed length names; and (c)

sorting constant pool entries by type using the teaching of Factor. The modification would be

obvious because one of ordinary skill in the art would be motivated to eliminate duplicate

constants by moving them to a shared table (Factor, column 2, lines 21-26).

Per Claim 10:

The rejection of claim 1 is incorporated, and further, Schmidt does not explicitly teach

mapping constant pool entry names to names having a fixed length. Factor teaches mapping

constant pool entry names to names having a fixed length (column 10, line 64 to column 11, line

3).

It would have been obvious to one having ordinary skill in the computer art at the time of

the invention was made to modify the method disclosed by Schmidt to include mapping constant

pool entry names to names having a fixed length using the teaching of Factor. The modification

would be obvious because one of ordinary skill in the art would be motivated to eliminate

duplicate constants by moving them to a shared table (Factor, column 2, lines 21-26).

Per Claim 11:

The rejection of claim 10 is incorporated, and Factor further teaches further comprising:

moving strings from the constant pool to a common string pool (column 10, line 64 to column

11, line 3).

Per Claim 12:

The rejection of claim 1 is incorporated, and further, Schmidt does not explicitly teach further comprising: assigning a global name to at least one of application and target environment methods of each interface class. Factor teaches further comprising: assigning a global name to at least one of application and target environment methods of each interface class (column 10, line 64 to column 11, line 3).

It would have been obvious to one having ordinary skill in the computer art at the time of the invention was made to modify the method disclosed by Schmidt to include further comprising: assigning a global name to at least one of application and target environment methods of each interface class using the teaching of Factor. The modification would be obvious because one of ordinary skill in the art would be motivated to eliminate duplicate constants by moving them to a shared table (Factor, column 2, lines 21-26).

Conclusion

19.   Any inquiry concerning this communication from the examiner should be directed to Qamrun Nahar whose telephone number is (571) 272-3730. The examiner can normally be reached on Mondays through Fridays from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y Zhen, can be reached on (571) 272-3708. The fax phone number for the organization where this application or processing is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).
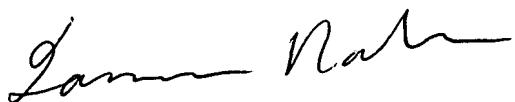
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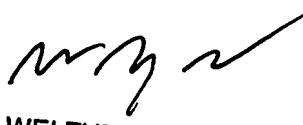
WEI ZHEN
SUPERVISORY PATENT EXAMINER